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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/733,031

12/11/2003

Linda Bootland

10044

8423

26607 7590 05/16/2007

PATRICIA A. SWEENEY

1835 PLEASANT ST.

WEST DES MOINES, IA 50265

EXAMINER

BUI, PHUONG T

ART UNIT

PAPER NUMBER

1638

MAIL DATE

DELIVERY MODE

05/16/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

## Office Action Summary

**Application No.**

10/733,031

**Applicant(s)**

BOOTLAND ET AL.

**Examiner**

Phuong T. Bui

**Art Unit**

1638

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 05 March 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-10 and 24-48 is/are pending in the application.
- 4a) Of the above claim(s) 33-39 and 42-48 is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5 and 10 is/are allowed.
- 6) ☒ Claim(s) 1-4, 6-9, 24-32, 40 and 41 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                                   | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

### DETAILED ACTION

1. The Office acknowledges the receipt of Applicant Request for Continued Examination (RCE), claim amendments and affidavits filed March 5, 2007. Applicant traverses the finality of the previous Office action since the claims were not previously rejected under 35 USC 103. Applicant's traversal is unpersuasive because the new rejection was necessitated by the amendment filed June 23, 2006, specifically adding the limitation of "integrated into the plant genome" to the claims. Furthermore, this traversal is rendered moot by the filing of the RCE.

Applicant further elects a previously unelected invention for examination (Group II). However, since Group I has been elected by original presentation and has been examined on the merits in the instant application, Applicant does not have a right to elect a new invention with the filing of an RCE. Applicant may wish to consider filing a divisional application to pursue the examination of Group II.

Claims 1-10 and 24-48 are pending. Claims 1-10, 24-32 and 40-41 are elected by original presentation. Claims 33-39 and 42-48 are withdrawn from examination as being drawn to a non-elected invention.

All previous rejections not set forth below have been withdrawn. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

***Claim Rejections - 35 USC § 103***

2. Claims 1-4, 6-9, 24-32, 40 and 41 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Goodman (US Pat. No. 4956282 (previously cited) in view of Koprowski et al. (US Pat. No. 5935570 (previously cited)). This rejection is maintained for reasons of record (see Final Rejection mailed September 19, 2006).

Applicant traverses primarily that a fish antigen produced in a plant would not predictably fold and elicit a protective immune response in fish; the declaration of Dr. Linda Bootland states that fish digestive system and immune response are different from mammals; it is possible to obtain an antibody response but not a protective response; fish digestive system may destroy the protein; Goodman only teaches expression of mammalian proteins; Koprowski teaches away from the invention by using microorganisms to infect plants; and one cannot infer the expression levels recited in the claims from Goodman.

Applicant's traversals have been carefully considered but are not found to be persuasive. Applicant's traversals are not commensurate in scope with the claims. The claims are drawn to a plant expressing a fish antigen. Goodman teaches expression of various antigens in plants which are properly processed or folded, and maintain their physiological activity. Koprowski teaches the nucleotide sequence encoding a fish antigen. Thus one skilled in the art would have been motivated to express the antigen of Koprowski using the plant expression system of Goodman with a reasonable expectation of success. There is no evidence that the antigen of Koprowski would not be properly folded or not elicit a protective immune response when expressed in the

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plant expression system of Goodman. In fact, the claims do not recite any additional element or component not taught by Goodman and Koprowski, and do not address the folding, immune response, antibody response, protective response, expression level and fish digestive system problems which Applicant alleges may be in Goodman. While there are differences between fish and mammals, there is no evidence that the antigen of Koprowski would be folded differently or would fail to elicit a protective immune response in fish when expressed in the plant of Goodman. Additionally, since this is a 103 rejection, neither Goodman nor Koprowski has to independently anticipate every limitation in the claims. The invention as a whole would have been obvious to one skilled in the art (*KSR International v. Teleflex*, 04-1350). Accordingly, for these reasons, the rejection is maintained.

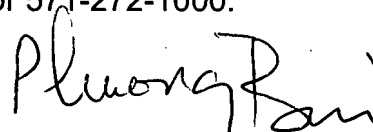
### **Remarks**

3. Claims 5 and 10 are objected to as being dependent on rejected claims but would be allowable if rewritten in independent form.
4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Phuong T. Bui whose telephone number is 571-272-0793.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Anne Marie Grunberg can be reached on 571-272-0975. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Phuong T. Bui  
Primary Examiner  
Art Unit 1638

5/8/07